

AMENDMENTS TO THE CLAIMS

Listing of the Claims:

1. (Original) An apparatus for providing a one-to-one projection of emission lithography, comprising:
 - a plate type emitter separated from a substrate holder by a predetermined distance, the plate type emitter having a desired pattern on its surface facing the substrate holder and being formed of a material selected from the group consisting of pyroelectric and ferroelectric material;
 - a heating source for heating the plate type emitter; and
 - a plurality of magnets or DC magnetic field generators disposed outside the emitter and the substrate holder, for controlling the path of electrons emitted from the plate type emitter.
2. (Original) The apparatus of claim 1, wherein the heating source is a remote controlled heater which generates infrared rays or a laser, or a contact heating plate which uses electrical resistance heating.
3. (Original) The apparatus of claim 1, wherein the heating source heats the emitter to a phase transition temperature or higher.
4. (Original) An apparatus for an x-to-one projection of emission lithography, comprising:

a plate type emitter separated from a substrate holder by a predetermined distance, the plate type emitter having a desired pattern on its surface facing the substrate holder and being formed of a material selected from the group consisting of pyroelectric and ferroelectric material;

a heating source for heating the plate type emitter; and

a deflection system disposed between the emitter and the substrate holder, for controlling the path of electrons emitted from the plate type emitter.

5. (Original) The apparatus of claim 4, wherein the heating source is a remote controlled heater which generates infrared rays or a laser, or a contact heating plate which uses electrical resistance heating.

6. (Original) The apparatus of claim 4, wherein the heating source heats the emitter to a phase transition temperature or higher.

7. (Original) The apparatus of claim 4, wherein the deflection system comprises:
a plurality of deflectors for deflecting electrons emitted from the emitter;
a magnetic lens disposed between the plurality of deflectors, the magnetic lens focusing the emitted electrons; and
a diaphragm for passing electrons focused by the magnetic lens and filtering out electrons drifting away from the focused electrons.

8. (Currently Amended) A method of providing a one-to-one projection of emission lithography, comprising:

forming a plate type emitter of either a pyroelectric or ferroelectric material;

exposing a substrate to ~~an~~ the emitter having a desired pattern on its surface facing a substrate holder;

applying a voltage between the emitter and the substrate to allow electrons to be emitted along a path from the emitter and applied to the substrate;

controlling the path of electrons using a plurality of magnets or DC magnetic field generators disposed outside the emitter and the substrate holder; and

heating the emitter.

9. (Original) The method as recited in claim 8, wherein the heating step includes heating the emitter by at least one of infrared rays, a laser, and an electrical resistance heater.

10. (Original) The method as recited in claim 8, wherein the heating step includes heating the emitter near to a phase transition temperature or higher.

11. (Currently Amended) A method of providing an x-to-one projection of emission lithography, comprising:

forming a plate type emitter of either a pyroelectric or ferroelectric material;

exposing a substrate to ~~an~~ the emitter having a desired pattern on its surface facing a substrate holder;

applying a voltage between the emitter and the substrate to allow electrons to be emitted along a path from the emitter and applied to the substrate;

controlling the path of electrons emitted from an emitter structure toward an object to be etched, using a deflection system; and

heating the emitter.

12. (Original) The method as recited in claim 11, wherein the heating step includes heating the emitter by at least one of infrared rays, a laser, and an electrical resistance heater.

13. (Original) The method as recited in claim 11, wherein the heating step includes heating the emitter near to a phase transition temperature or higher.

14. (Original) The method as recited in claim 11, wherein the controlling step includes deflecting emitted electrons from the emitter, focusing the emitted electrons using a magnetic lens, and after the focusing step, passing the emitted electrons through a diaphragm to filter out electrons drifting away from a focus path of electrons.